

REMARKS/ARGUMENTS

The Office Action mailed September 22, 2004, has been received and reviewed. Claims 1 through 48 are currently pending in the application. Claims 1, 8 through 12, 23, 25, 26, 34 through 39, and 48 stand rejected. Claims 2 through 7, 13 through 22, 24, 27 through 33, and 40 through 47 have been objected to as being dependent upon rejected base claims, but the indication of allowable subject matter in such claims is noted with appreciation. Applicants have amended claims 1, 7, 24, 25, 31, 34, 45, and 46 and respectfully request reconsideration of the application as amended herein. The amendments presented herein are merely to clarify the claims of the present invention, and are not made for the purpose of narrowing the scope of the present invention

Information Disclosure Statement(s)

Applicants note the filing of Information Disclosure Statements herein on September 16, 2003 and March 8, 2004. Applicants further note that copies of the PTO-1449 filed March 8, 2004 and the second page of the PTO-1449 filed September 16, 2003 were not returned with the outstanding Office Action. Applicants respectfully request that all information cited in the PTO-1449s be made of record herein, and copies of the same, as initialed by the Examiner, be returned to Applicants' attorneys for their records. A copy of the PTO-1449s and date-stamped copies of the transmittal postcards evidencing receipt of the same by the Office are enclosed for the Examiner's reference.

35 U.S.C. § 102(e) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 6,483,030 to Glenn et al.

Claims 1, 8 through 12, 23, 25, 26, 34 through 39, and 48 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Glenn et al. (U.S. Patent No. 6,483,030). Applicants respectfully traverse this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention

must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Glenn discloses an image sensor package including molding 124 and a window 122 placed in a pocket of the molding. The molding 124 is attached to a periphery of an upper surface 102U of a substrate 102 by an adhesive layer 126 as shown in FIGS. 1 and 2. An optical lid 120 includes the window 122 and the molding 124. The image sensor 106 is located and enviro-hermetically sealed in an enclosure formed by substrate 102, optical lid 120 and adhesive layer 126. (Col. 11, lines 44-50).

Claim 1, as amended herein, recites an electronic device package comprising a substrate having a first surface and an opposing second surface, and “a housing structure disposed on the substrate and comprising a plurality of raised sidewalls extending along the perimeter of the substrate defining a cavity in the housing structure, wherein the cavity faces away from the substrate, and *the housing structure extends across a bottom surface of the cavity to cover substantially all of the first surface of the substrate* and includes *at least one aperture in the bottom surface of the cavity* exposing the at least one contact pad through the housing structure.” (Emphasis added).

Glenn fails to disclose a housing structure which extends across a bottom surface of a cavity covering substantially all of a surface of the substrate, the cavity facing away from the substrate. Rather, a base 226 of the molding 124 of Glenn is attached only to a periphery of a substrate. (Col. 11, lines 44-50). The molding 124 of Glen does not define a cavity and extend across a bottom surface of the cavity, the cavity facing away from the substrate. Further, the molding 124 does not include an aperture in the bottom surface of a cavity, exposing a contact pad. The molding 124 merely supports window 122 on both sides, and extends inwards beyond sides 122S of the window 122. An exterior locking feature 225E extends over a periphery of an exterior surface 122E of the window 122. (Col. 11, lines 21-30, FIG. 2). The optical lid 120 of Glenn includes the window 122 and the molding 124. The optical lid 120, substrate 102, and adhesive layer form an enclosure. The window 122 is located above the active area 110 of image sensor 106. However, the optical lid 120 of Glenn is not a housing structure which defines a cavity and extends across a bottom surface of the cavity to cover substantially all of a surface of the substrate. Further, the optical lid 120 does not include an *aperture* exposing a contact pad

through the optical lid. Rather, the optical lid 120 is part of an enviro-hermetically sealed enclosure.

The surface of the substrate of Glen is not covered by a housing structure. Rather, the image sensor package of Glenn includes a metallization 109 on the substrate upper surface 102U which defines a die attach area of substrate 102 to which image sensor 106 is attached. (Col. 9, lines 65-67, FIGS. 1 and 2).

Claims 8-12 and 23 are each allowable, among other reasons, as depending from claim 1 which should be allowed.

Claim 8 is additionally allowable because Glenn fails to disclose a housing structure including a plurality of apertures. Glenn further fails to disclose each aperture of a plurality of apertures exposing a single contact pad of a plurality of contact pads.

Claim 9 is additionally allowable because Glenn fails to disclose a housing structure including a plurality of apertures. Glenn further fails to disclose each aperture of a plurality of apertures exposing at least two contact pads of a plurality of contact pads.

Claim 10 is additionally allowable because Glenn fails to disclose a contact pad within an aperture.

Independent claim 24 has been objected to as being dependent upon a rejected base claim. Claim 24 is an independent claim, and claims depending from claim 24 are rejected as being anticipated by Glenn, therefore applicants will respectfully set forth the elements of claim 24, as amended herein, that Glenn fails to disclose. Glenn fails to disclose covering substantially all of a surface of a substrate with a layer of material including a cavity having sidewalls and a bottom surface formed from the layer of material, the cavity facing away from the substrate, and forming at least one aperture in the bottom surface of the cavity to expose the at least one contact pad through the layer of material. Rather, the molding 124 of Glenn is attached only to a periphery of a substrate.

Claims 25-26, 34-39, and 48 are each allowable, among other reasons, as depending from claim 24 which should be allowed.

Claim 25 is additionally allowable because Glenn fails to disclose covering substantially all of a surface of a substrate with a layer of material, and forming the layer of material from a mold compound. The surface of the Glenn substrate is not covered with mold compound.

Claim 26 is additionally allowable because Glenn fails to disclose covering substantially all of a surface of a substrate, comprising at least partially curing the mold compound onto the surface of the substrate with a molding tool. The surface of the Glenn substrate is not covered with mold compound.

Claim 34, as amended herein, is additionally allowable because Glenn fails to disclose covering substantially all of a first and a second surface of a substrate with a layer of material. Further, Glenn fails to disclose forming another aperture to expose an attachment pad on the second surface on the substrate through the layer of material.

Claim 35 is additionally allowable because Glenn fails to disclose forming a plurality of apertures in the bottom surface of a cavity. Glenn further fails to disclose an aperture exposing a contact pad.

Claim 36 is additionally allowable because Glenn fails to disclose forming a plurality of apertures in the bottom surface of a cavity. Glenn further fails to disclose an aperture exposing at least two contact pads.

Claim 39 is additionally allowable because Glenn fails to disclose a contact pad within an aperture.

Objections to Claims 2 through 7, 13 through 22, 24, 27 through 33, and 40 through 47/Allowable Subject Matter

Claims 2 through 7, 13 through 22, 24, 27 through 33, and 40 through 47 stand objected to as being dependent upon rejected base claims, but are indicated to contain allowable subject matter and would be allowable if placed in appropriate independent form. Although the indication of allowable subject matter is noted with appreciation, Applicants respectfully submit that claims 2 through 7, 13 through 22, 24, 27 through 33, and 40 through 47 are allowable as presently presented.


ENTRY OF AMENDMENTS

The amendments to claims 1, 7, 24, 25, 31, 34, 45 and 46 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application.

CONCLUSION

Claims 1 through 48 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



Kirsten L. Dockstader
Registration No. 54,597
Attorney for Applicant(s)
TRASKBRITT
P.O. Box 2550
Salt Lake City, Utah 84110-2550
Telephone: 801-532-1922

Date: December 16, 2004
KLD/ps:rmh
Document in ProLaw

THE PATENT & TRADEMARK OFFICE MAILROOM DATE
STAMPED HEREON IS AN ACKNOWLEDGEMENT THAT ON THIS
DATE THE PATENT & TRADEMARK OFFICE RECEIVED:

Supplemental Information Disclosure Statement (2 pages); and Form
PTO/SB/08 (1 page), with copy of cited reference (1 document)

Invention: MOISTURE-RESISTANT ELECTRONIC DEVICE
PACKAGE AND METHODS OF ASSEMBLY
Applicant(s): Bolken et al.
Filing Date: June 16, 2003
Serial No.: 10/663,959
Date Sent: March 3, 2004 via first class mail
Docket No.: 2269-5661US
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

1

of

1

Complete if Known

Application Number

10/663,959

Filing Date

June 16, 2003

First Named Inventor

Bolken et al.

Group Art Unit

Unknown

Examiner Name

Unknown

Attorney Docket Number

2269-5661US (02-1339.00/US)

U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

[illegible]

**Examiner
Signature**

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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THE PATENT & TRADEMARK OFFICE MAILROOM DATE
STAMP HEREON IS AN ACKNOWLEDGEMENT THAT ON THIS
DATE THE PATENT & TRADEMARK OFFICE RECEIVED:

Utility Patent Application Transmittal (1 page); Fee Transmittal (1 page, with duplicate copy); Check No. 9400 in the amount of \$1254.00; Specification including title page, claims and single page abstract (25 pages); Formal Drawings (12 sheets, 25 figures); Declaration for Patent Application (with Power of Attorney (3 pages); Recordation Form Cover Sheet (1 page, with duplicate copy); Assignment (4 pages); and Check No. 9401 in the amount of \$40.00; Power of Attorney by Assignee and Certificate Under 37 CFR § 3.73(b) (5 total pages); Information Disclosure Statement (3 pages); and Form PTO/SB/08A-B (2 pages) with attached references.

Invention: MOISTURE-RESISTANT ELECTRONIC DEVICE
PACKAGE AND METHODS OF ASSEMBLY
Applicant(s): Bolken et al.
Filing Date: September 16, 2003
Serial No.: Not Yet Assigned
Date Sent: September 16, 2003 via Express Mail Label No.
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Docket No.: 2269-5661US
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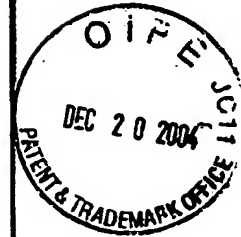
03916 U.S. PTO

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Application Number	Not Yet Assigned
Filing Date	September 16, 2003
First Named Inventor	Bolken et al.
Group Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	2269-5661US (02-1339.00/US)

Sheet 1 of 2

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PTO/SB/08B(10-01)

Approved for use through 10/31/2002. OMB 0651-0031

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Filing Date	September 16, 2003
First Named Inventor	Bolken et al.
Group Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	2269-5661US (02-1339.00/US)

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		BOLKEN et al. Co-pending application no. 10/164,077 filed 06/04/2002 entitled "PACKAGES FOR IMAGE SENSITIVE ELECTRONIC DEVICES AND METHODS OF ASSEMBLY"	
		KINSMAN, Larry D., Co-pending application no. 10/228,411 filed 08/26/2002 entitled "OPTICALLY INTERACTIVE DEVICE PACKAGES AND METHODS OF ASSEMBLY"	

Examiner
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¹ Unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

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